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SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENTS AND
THEIR IMPACT ON INTERNATIONAL SECURITY

Note by the Secretary-General

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* A/50/150.

I. INTRODUCTION

1. On 2 December 1994, the General Assembly adopted resolution 49/67 entitled "Scientific and technological developments and their impact on international security", the relevant parts of which read as follows:

["The General Assembly,]

"3. Requests the Secretary-General to follow scientific and technological developments and to make a relevant assessment in keeping with the criteria presented to the General Assembly at its forty-fifth session 1/ and to submit a report to the Assembly at its fiftieth session;

"4. Also requests the Secretary-General to develop a database of concerned research institutions and experts with a view to promoting transparency and international cooperation in the applications of the scientific and technological developments for pursuing disarmament objectives such as disposal of weapons, conversion and verification, among others;

"5. Invites all Member States to communicate to the Secretary-General their views and assessments".

2. Given the complexity and magnitude of modern technology, it is a challenging task to make relevant assessments of new developments in all the five broad areas discussed in the Secretary-General's earlier report on the subject, 2/ i.e., biotechnology, information technology, materials technology, nuclear technology and space-related technologies. Such assessments require special expertise in monitoring the processes of research, development, testing and evaluation in each independent field of technology as well as their impact on each other and on international security. The Secretary-General lacks sufficient resources for that purpose. Support from Member States would enable him to undertake such assessments on a periodic basis. The Secretary-General, however, is continuing efforts to stay informed about major trends of discussions within various parts of the United Nations system on those issues of science and technology which have a bearing on disarmament and international security.

3. The United Nations will stand to gain by encouraging greater interaction among the scientific community, Governments, industry and the public in order to elaborate criteria for technology assessment with a view to following its impact on international security. National and regional initiatives in organizing periodic workshops/seminars for this purpose will be a welcome step in that direction.

4. The Centre for Disarmament Affairs is in the process of expanding its existing database on disarmament to encompass concerned research institutions and experts with a view to promoting transparency and international cooperation in the applications of the scientific and technological developments for pursuing disarmament objectives such as disposal of weapons, conversion and verification.

5. The Secretary-General sent a note verbale to Member States on 17 March 1995 to solicit their views and assessments on the subject. The replies received to date are reproduced in chapter II. Any other replies received will be issued as addenda to the report.

II. REPLIES RECEIVED FROM MEMBER STATES

QATAR

[Original: Arabic]

[28 July 1995]

1. Scientific and technological developments and their impact on international security

1. Scientific and technological developments have played a prominent role in the life and evolution of humankind. They were - and still are - the direct cause of major transformations in all fields, including the political, economic, social, military and industrial. It is universally recognized that in political or military conflicts victory is allied with scientific and technological development, as was the case throughout the world in the interwar period. There is thus no doubt that scientific and technological development has had an impact on international security. Although it can play both a positive role and a negative role, and presents advantages as well as disadvantages, the contemporary world seeks to emphasize its positive aspects. As a result of constant important research and studies, scientific and technological development has given rise to many vital new areas of endeavour and has come to encompass many technical fields, some of which are mentioned below.

(a) Communications

2. The scope of communications today has made the world a small village in which news is transmitted in record time through satellite stations dispersed in space. This has made it easy for the international community to zero in quickly on any point of tension in order to maintain peace and security in the region and to respond to any act of aggression or violation of the sovereignty of a country. There are many recent as well as contemporary examples of this. The advanced and complex equipment mounted on satellites, with their great precision and sensitivity, enables espionage against other States in space as well as the monitoring of their movements through reconnaissance flights. Ground and ship-borne stations are equally well equipped with espionage and monitoring equipment and are capable of engaging in reconnaissance activities, in addition to carrying advanced weapons. Mention should also be made of aircraft as a means of communication, including AWACS and other aircraft of various sizes, and the early-warning equipment they carry which can reach any point in the world in a short time. Telecommunications has also benefited the world to a great extent, inasmuch as it has now become possible to communicate with any part of the world in a short time and to transmit information effortlessly at extraordinary speeds.

/...

(b) Weapons

3. Security and stability in a region is linked both to its political, economic and military importance and to the political and military forces that safeguard that stability and ward off international crises that might turn it into an area of tension. Scientific and technological development in the military field has led to the expansion of the apparatus of war in terms of preparedness, weaponry and military equipment in general. Conventional military operations have developed into electronic warfare operations involving the planning and execution of offensive as well as defensive operations. This has facilitated the monitoring of borders, coastlines, territorial and international waters, space and natural resources by means of powerful, ultra-precise radar networks, instead of by land, sea and air patrols, thereby freeing up human, material and temporal resources so as to secure borders against enemy infiltration and guaranteeing the repulsion of any violation of the integrity, security and stability of States or entire regions.

4. The Disarmament Commission and the Security Council are furthering their aim of prohibiting the use of weapons of mass destruction and limiting the scale and type of such weapons by working towards the full implementation of the provisions of the international treaties on the elimination of weapons of mass destruction, such as those involving nuclear power and its derivatives, and the prohibition of all means of their proliferation and by endeavouring to create nuclear-weapon-free zones, particularly in those zones that are designated as areas of tension in the East and the West.

5. To nuclear weapons, with their high capacity for destruction, and the chemical, biological and bacteriological weapons that modern military technology has produced, all of which are called weapons of mass destruction because of their use against humankind without regard for their impact on society and on other living beings, i.e., animals and plants, must be added the pollution of the environment and natural and water resources and the resultant destruction and disorder afflicting the entire region, whose effects last for decades, leading to the migration, displacement and dispersal of populations.

6. Despite the fact that the possession of weapons of mass destruction, particularly nuclear weapons, has become the chief concern of most alliances and of the great Powers as a means of maintaining the balance of power, leading to the spectre of a devastating nuclear war which threatens the security and stability of those States that cherish peace and do not possess such weapons, the specialized agencies of the United Nations would like to see many areas of tension remain disarmed, temporary monitoring imposed on the States of those regions and those same States prevented from acquiring advanced weapons of this type.

(c) Transport

7. Present-day scientific and technological development in the field of transportation is exemplified by the aircraft industry and by other modern means of transportation of various types, sizes and methods of use. Thus, transport aircraft are used for many purposes, including to transport military forces and equipment to areas of tension and armed conflict, e.g., to transport United

Nations peace-keeping forces to supervise the monitoring of regional conflicts, to protect civilians or to establish safe areas. They are also used for speedy response in search-and-rescue operations, medical evacuations and provision of relief to countries stricken by natural disasters. This applies proportionately to other means of transportation such as ships and rapid trains and land carriers. Accordingly, we find that scientific and technological development in the field of transportation is virtually the backbone for linking remote parts of the world and making the planet Earth a small village.

2. Conclusion

8. The view of the State of Qatar on scientific and technical development is that we are in accord with the course taken by scientific progress as long as it is used for the benefit of humankind and the pursuit of its happiness. Qatar shares this view with its fellow members of the Gulf Cooperation Council and with other States that cherish peace and international security and stability. This view has been summed up in the foregoing paragraphs.

9. Qatar strongly opposes the use of this scientific progress while all States do not abide by the binding international covenants and treaties that they have signed; the strongest possible sanctions should be imposed on States that violate the provisions of those treaties or use such internationally prohibited weapons in local, regional or international armed conflicts and thus cause serious damage and instability in areas of tension, particularly where it is impossible to impose control over the situation when one of the parties to the conflict uses an advanced weapon classified among the weapons of mass destruction, including nuclear or biological/bacteriological weapons. Such acts go against nature, all divine missions, regional and international regimes and covenants, national constitutions, the principles of human rights, customs, and the norms established by international law in its modern history.

UKRAINE

[Original: Russian]

[20 July 1995]

New scientific and technological progress in the military sphere plays a significant role in both the reinforcement and potential destabilization of international security.

Strengthening effective international monitoring of the proliferation of technologies, material and "know-how" that can be used for military purposes and the production of weapons of mass destruction and destabilizing types of weapons has currently become a topical issue. Ukraine is prepared to participate as an equal partner in coordinated international efforts to prevent the export of such technologies. It is therefore giving serious consideration to the negotiations on the extension of the Missile Technology Control Regime and the Nuclear Suppliers' Group, and the establishment of a new regime based on the Coordinating Committee for Multilateral Export Controls.

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States have the inalienable right to make use of scientific and technological progress in individual or collective self-defence, as stipulated by the Charter of the United Nations.

Total arms expenditure, including money spent on developing advanced technologies for military purposes, has absorbed considerable human, material and financial resources. States should therefore make additional efforts to exploit these resources for peaceful purposes by converting military sectors to other kinds of production.

Science and technology can encourage the strengthening of international security, for example through the use of scientific progress in implementing disarmament agreements and the introduction of verification measures.

Realizing that the international community is concerned about the possible recruitment of some of our specialists to work on programmes for the development of new types of weapons in other countries, Ukraine is taking steps to prevent this happening. We hope that, in this sphere, substantial assistance will be made available by the Ukrainian Scientific and Technological Centre, established in Ukraine with the involvement of the United States of America, Canada and Sweden, which will make it possible to redirect the potential of Ukrainian scientists involved in military programmes into the development of areas which have major significance for our country, such as the peaceful use of outer space, the development of nuclear power, finding solutions to energy conservation problems, protecting the environment, etc.

States should take appropriate measures to guarantee greater openness in research that could have a dual application, with a view to ensuring that such research is not put to military use. In order to better assess and forecast the impact of science and technology on international security, they have an obligation to share experience and information in this sphere while at the same time reserving the right to protect information which affects their paramount national security interests.

Notes

1/ A/45/568.

2/ Ibid.
